

# CORNELL READING COURSE FOR THE FARM

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LESSON 113

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THE HORSE SERIES

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## JUDGING DRAFT HORSES

E. S. HAM



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## CORNELL READING COURSE FOR THE FARM

In the busy season on the farm practical knowledge and hard work are required for the highest degree of success. Some of the necessary knowledge is gained through experience, and some is learned by reading and study. Reading reliable agricultural literature not only helps in increasing profits, but also adds to the interest and satisfaction of farm life through a better understanding of the principles involved in farming operations. The Cornell Reading Course for the Farm furnishes an opportunity for studying at home the principles and practices of successful farming. Enrollment is free to residents of New York State. Direction is given to the reading by the arrangement of lessons in series and by sending the lessons in each series consecutively. In order that members of the reading course may receive the latest information available, the new lessons on subjects of general interest are sent to each one registered. After readers have completed a study of all of the lessons in the series in which they are enrolled, they will continue to receive the new lessons. The discussion paper, which accompanies this lesson, contains further information on the Cornell Reading Course for the Farm.

The demand for advanced instruction similar to that given by correspondence courses, has resulted in arranging for advanced reading courses in fruit growing and vegetable gardening. These courses are conducted by means of a standard textbook, not published by the College of Agriculture. The textbook is bought by each member. Sets of questions are provided on the chapters, and the answers are corrected and graded and returned to the reader. If the reader desires to study agricultural subjects not included in the reading course for the farm or in the advanced courses, he may obtain a list of references on request.

Local organizations that aim to promote the study of reading course lessons and to advance the welfare of the rural community may be registered as Cornell Study Clubs. The function of these clubs is to furnish an occasion and incentive for study, to foster a spirit of common interest in the community, and to offer an opportunity for social interchange of thought and experience. Cornell study clubs may also develop the spirit of cooperation in buying and selling. The membership may be composed of farmers and their families — the men using reading course lessons for the farm and the women reading course lessons for the farm home, and both groups joining for the social hour — or separate clubs of men and women may be formed. The success of a Cornell study club depends principally on the development of local leadership. Assistance is given in organizing and conducting clubs, and speakers are sent to clubs occasionally in connection with the regular extension work of the College.

ROYAL GILKEY,

Supervisor of the Cornell Reading Course for the Farm.



## JUDGING DRAFT HORSES

E. S. HAM

So did this horse excel a common one  
In shape, in courage, colour, pace, and bone.  
Round-hoof'd, short-jointed, fetlocks shag and long,  
Broad breast, full eye, small head, and nostril wide,  
High crest, short ears, straight legs, and passing strong,  
Thin mane, thick tail, broad buttock, tender hide:  
Look, what a horse should have he did not lack.

Shakespeare

The ability to note and weigh correctly the merits and the defects of a horse seems to be inborn in some men, but almost any one may become fairly efficient in judging a horse by careful study and practice.

In judging any class of animals, one must know, first, for what purpose the class has been developed, and, second, what requirements are necessary in order to fulfill this purpose. In the case of the draft horse, it is a heavy animal weighing not less than 1500 pounds and having a minimum height of 15-3 hands. The weight should be due to heavy development of muscle and bone. The draft horse is developed for moving heavy loads at a slow pace, and in order to perform this task economically he must be developed along lines which tend for massiveness and strength.

Because of the importance of a knowledge of what constitutes a draft class as well as of a general familiarity with the several breed characteristics in judging draft horses, a brief description of the early history together with the important characters and breed criticisms is given before considering the factors involved in judging. If a more detailed knowledge of the breeds is desired, the references given at the close of this lesson may be consulted.

### BREEDS OF DRAFT HORSES

#### PERCHERON

The Percheron originated in northwestern France in the district known as LePerche, now included within the departments of Orne, Sarthe, Eure, Loir-et-Cher, and Eure-et-Loir. Percheron foals to be accepted for registry in the French book must be registered during the year of their birth. Before acceptance for registration, they must be examined and passed by an official appointed by the Percheron Horse Society who takes a careful description of their color and markings and who brands them on the neck with the letters "S. P." enlaced.

The Percheron Horse Society of France was organized in 1883, and besides looking after the registration of Percherons it holds an annual summer show in the Percheron district. The improvement of the Percheron in France is due to both public and private efforts. The government has for a number of years maintained studs in which selected animals have been kept for breeding purposes. Subsidies are also granted to private individuals in order to keep high-class horses in the studs.

Stallions intended to stand for public service in France must be examined by officials appointed by the government and certified as being free from periodic ophthalmia, or moon blindness, and roaring.

The introduction of Percheron horses into America dates back many years. There are accounts of a draft horse from France of Percheron type that was introduced into Canada in 1816 and later transferred to New York. There was also an importation of Percherons into New Jersey as early as 1839. However, the breed gained its first real foothold in America in 1851, when Louis Napoleon was imported. It is from 1851 that practically all Percheron history in America dates.

The Percheron is massive, muscular, powerful, and probably fully as clean-cut and refined as any of the draft breeds. In weight mature stallions range from 1700 to 2000 pounds, and mares from 1500 to 1800 pounds, although there are many exceptions. In height, good mature stallions will measure from 15½ to 17 hands with a general average about 16½ hands, and mares will measure from 15½ to 16½ hands with a general average of about 16 hands. The action, especially at the walk, is the very best for draft horses.

In color there is great variation, all colors being found to greater or less extent. Gray is the favorite color in France, while darker colors are preferred in this country. Probably the majority of Percherons in this country are black or gray.

The head of the Percheron is often rather large but is clean-cut, and there is more refinement about the head and the neck of the Percheron than of any other draft breed. The eyes are full and prominent, and the ears are refined, attractively set, and well carried. The neck is rather short but is well crested and graceful. It is smoothly blended with the body and neatly and cleanly attached to the head, with an abundance of mane and foretop. The head and the neck of the Percheron are very attractive, showing the effect of crossing with Arabian blood. The shoulders are set at medium inclination, neither too straight nor too sloping. The chest is deep and broad; the back is short and well muscled; the loin is well muscled, smooth, and broad. The croup is wide and often too sloping, although great improvement has been made in this respect in recent years.

Legs, feet, and bone on the average are good. The legs are free from long hair, or feather, characteristic of the Shire and the Clydesdale. The bone is of good quality and is as clean and hard as the bone of any of the draft breeds. The feet are very good, being large with open heels and dense, elastic hoofs.

Some of the common criticisms of the Percheron are too sloping croup, with tail set too low. Some are criticised as being too fine, that is, not of a draft type, having too small bones and lack of depth and fullness of body. Other faults are lack of breadth and flatness in cannon bones; the pasterns are also too short and steep.

For many years the Percheron has been the favorite drafter of the American people, and his type is widespread in this country. The Percheron outnumbered all other draft breeds in the United States at present and there seems to be no diminution in its popularity. This is due largely to its adaptability to meet the needs and desires of the American people,

and also because the Percheron nicked well with the native American stock. For this reason grade Percherons have become very common and are great favorites on horse markets of this country.

In 1876 the National Association of Importers and Breeders of Percheron-Norman Horses was organized in the United States. The present day Percheron Society of America is an outgrowth of the old association. Up to January 1, 1915, this association had accepted for registration approximately 106,000 animals. The secretary of the Percheron Society of America is Wayne Dinsmore, Union Stock Yards, Chicago, Illinois.

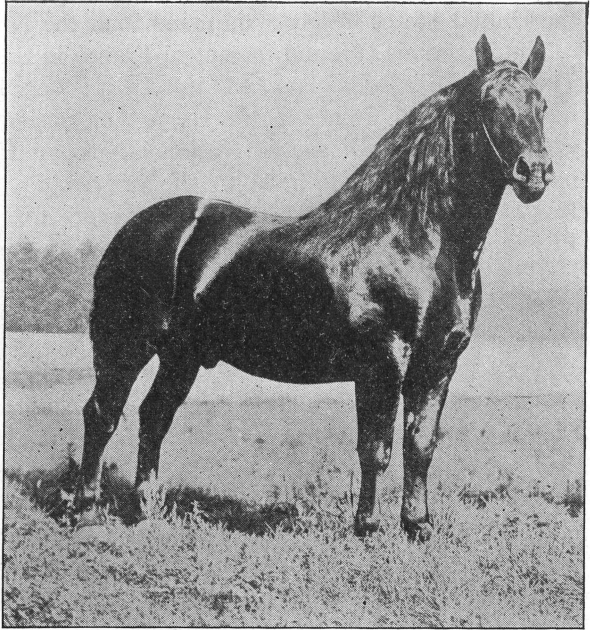


FIG. 74. PERCHERON STALLION

### FRENCH DRAFT

The name French Draft is applied broadly to all breeds of draft horses coming from France, the Percheron included. Besides the Percheron there are a number of these breeds, but the only ones of any importance in this country are the Boulonnais and the Nivernais.

The Boulonnais comes from northern France in the vicinity of Boulogne. The breed is a trifle larger and coarser than the Percheron, but resembles it very closely in general type. The most prevalent color is gray, although other colors are seen occasionally. This breed has been imported to the United States in larger numbers than the Nivernais.

The Nivernais is found in central France in the Department of Nievre. The common color is black, and in type it is very similar to the Percheron.

The National French Draft Horse Association was organized in 1876, when it was known as the National Norman Horse Association, which name was changed in 1884 to the present day National French Draft Horse Association of America. It accepts for registration any of the French Draft breeds or their crosses. Up to January 1, 1915, the association had accepted for registration some 27,000 animals. The secretary of the association is C. E. Stubbs, Fairfield, Iowa.

### BELGIAN

The Belgian draft horse, as the name indicates, originated and has been developed in Belgium. The Belgian Draft Horse Society was organized in Belgium in 1886. The purposes of the organization were to encourage breeding, to maintain a stud book, and to hold an annual show at Brussels. The breeding of Belgians is also promoted by the government, which awards prizes and subsidies to the best animals in various provinces. Also stallions that stand for public service must be approved by a commission appointed by the government.

The first authentic importation of Belgians into this country was in 1866, but it has been only in the last ten to fifteen years that they have been imported in any large numbers. The early trade was mostly in stallions, but within the last few years a large number of mares have been imported.

The Belgian is one of the most compact in form of any of the draft breeds, possessing a maximum of weight within a given space. The Belgian is also one of the heaviest breeds, probably dividing honors with the Shire in this respect. Mature stallions weighing a ton or more are comparatively common. In height mature stallions stand about  $16\frac{1}{4}$  hands, and mature mares about 16 hands. The colors common to the Belgian are bay, chestnut, and roan, with occasional browns, grays, and blacks. In action the Belgian is fair, although less active than the Clydesdale or the Percheron.

The head is rather large with straight face, large nostrils, but rather small and not very prominent eyes. The ears are small but well set and generally well carried. The neck is short, very thick, and well crested. The shoulders are inclined to be rather upright, heavily muscled, and strong. The chest is broad and deep, giving large girth. The back is short and very broad, but is often inclined to sway entirely too much. The ribs are long, well sprung, and closely coupled at the loin, giving a better body than is found in any of the other breeds of draft horses. The croup is broad and heavily muscled, but is inclined to be too sloping with tail set too low, although well carried. The quarters and the thighs

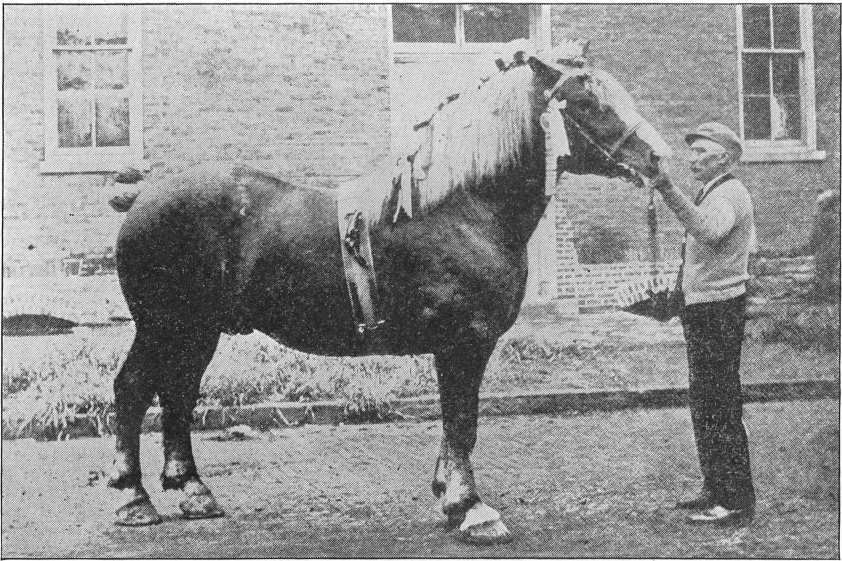


FIG. 75. BELGIAN STALLION

are heavily muscled and well rounded. The legs are short and free from long hair, or feather, characteristic of the Clydesdale and the Shire. The legs are rather thick, and the tendons and bones lack definition. The hocks are rounded, lacking both depth and definition. The pasterns are inclined to be too short and straight. The feet lack in circumference and are inclined to be straight and to lack width of heel.

Some of the common criticisms of the Belgians are lack of general refinement, sway backs, sloping croups, lack of depth in hock, too straight pasterns, and lack of circumference of feet.

The Belgian has been important in the improving of draft horses in this country, especially when mated with rangy mares. The Belgian will be found wherever heavy draft work is to be done. Probably no



breed has increased more in popularity or made greater improvement in the last decade than the Belgian.

The American Association of Importers and Breeders of Belgian Draft Horses was organized in 1887. Up to January 1, 1915, the association had registered over 9000 stallions and over 4500 mares. The secretary of the association is J. D. Conner, jr., Wabash, Indiana.

#### CLYDESDALE

The Clydesdale originated and has been developed in Scotland and is

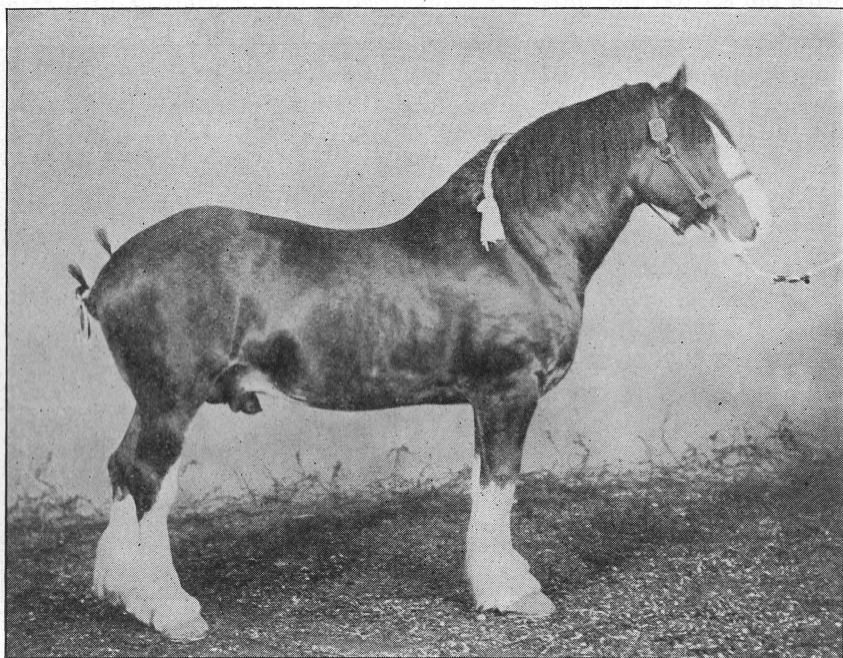


FIG. 76. CLYDESDALE STALLION

practically the only horse found in that country. The Clydesdale Horse Society of Great Britain and Ireland was organized in 1878.

In 1842 the Clydesdales were imported into Canada, probably due to the love of the Scotch settlers for their favorite breed, but it was not until the early seventies that Clydesdales were introduced into the United States from both Canada and Scotland. The best type of Clydesdale calls for all the characteristics of a model draft horse. Probably the general appearance is more rangy and not so massive as that of the Belgian or the Percheron. The Clydesdale will not weigh so much as the Belgian or the Shire, and as a class probably will not weigh quite so much as the Percheron. Mature stallions will aver-

age from 1700 to 2000 pounds, while mares will average from 1500 to 1800 pounds. In height mature stallions will stand about 16½ hands, while mares will average 16 hands. The colors most common are bay and brown with white markings, but blacks, grays, chestnuts, and roans are occasionally found. The white markings are characteristic of the breed, and it is the exception to see a bay or a brown Clydesdale without white face and some white on the feet and the legs. The back of the legs are covered with long hair, or feather, which is also characteristic of the breed. The Clydesdale excels all other breeds of draft horses in style and action.

The head is large with nose often arched; the forehead is full between the eyes but tapers upward. The eyes are clear, full of vigor, yet mild; the ears are of fair length, active, and indicative of good disposition. The neck is of medium length and is slightly crested. The shoulders are somewhat oblique, with high withers, thus giving good action.

The back is straight and broad, with ribs well sprung but a little deficient of length in the rear ribs. The croup is muscular and broad with tail well set and quarters especially well developed. The thighs are rounded and muscular. The set of the knees and the hocks is one of the strong points of the breed. The hock is free from all coarseness and suggestive of great strength. The cannons are short and flat with tendons well defined and clean. The fetlocks are large and strong with pasterns fairly sloping. The feet are large and occasionally too thin and flat at the heels. White feet, though common, are objectionable because often they are softer than those of darker color.

Some of the more common criticisms of this breed have been lack of size of body, due to lack of width and depth, too much feather, and too many white markings with no regularity, which are not liked by the average American. Clydesdales are often criticized for having white feet with soft thin shell.

The Clydesdale has been used some in this country to cross on native mares, and some very credible animals have been produced where a horse of snappy stride with style and action was wanted. But as a general rule these grades are a little too light for the heaviest draft work.

The American Clydesdale Association was organized in 1879 and has registered up to January 1, 1915, a little over 18,400 animals. The secretary of this association is R. B. Ogilvie, Union Stock Yards, Chicago, Illinois.

### SHIRE

The Shire originated and was developed in England and is bred in nearly all parts of that country to-day. The English Cart Horse Society was organized in 1878, and in 1884 the name was changed to Shire Horse Society. Besides registering animals the society holds an annual show

and sale in London. The society also awards medals and prizes at various shows, fairs, and expositions in England and the United States.

The first authentic importation of Shire horses into America was in 1836, when Tamworth was imported to Ontario. The first importation to reach the United States was in 1853.

In general characteristics, this breed is similar to the Clydesdale, except that it is more massive, being equaled in weight only by the Belgian.

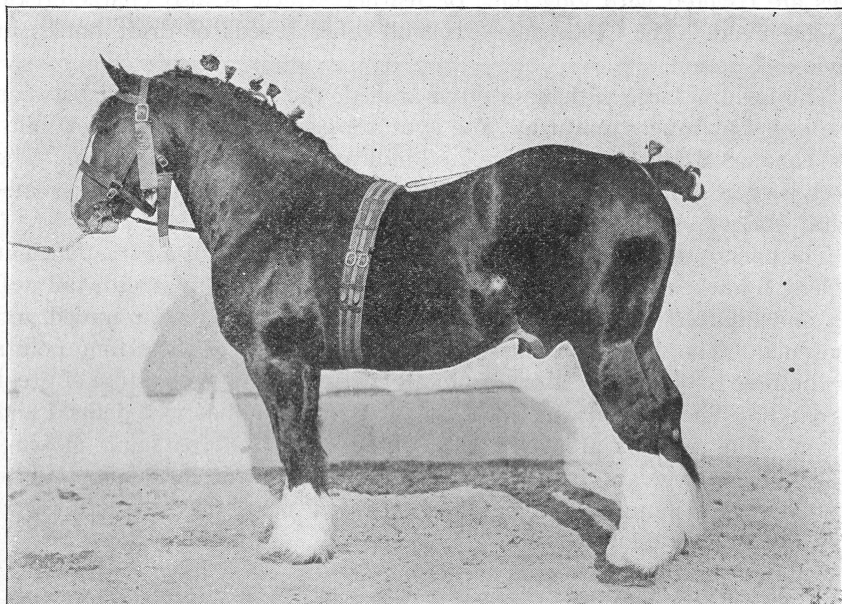


FIG. 77. SHIRE STALLION

Mature stallions that weigh from 1800 to 2000 pounds are comparatively common. In height they average from  $16\frac{1}{2}$  to 17 hands, while mares average about two inches less. The common colors are bay, brown, and black, with white markings about face and legs. Other colors are occasionally seen although uncommon. As a characteristic of the breed, the Shire has very long heavy hair, or feather, on back of cannon and fetlock.

In temperament the Shire is probably more lymphatic than any other breed and for this reason is very inactive.

The head of the Shire is large with a tendency to a Roman nose and a lack of width between the eyes. The neck is short, well crested, and muscular. The shoulders are rather straight or stilted. The body of the Shire is larger and deeper than that of the Clydesdale, with a stronger and more powerful loin. The quarters are full and heavily muscled, also the legs above the knees and the hocks are well muscled and powerful. The knee

and hock joints are large and strong. The cannons are large and fairly full, the pasterns are inclined to be too straight, and the feet are large with rather flat heels.

The breed is often criticized for lack of quality and refinement in general and for a sluggish temperament. It is also criticized for too straight shoulders and too straight pasterns, resulting in lack of action. It is disliked by the average American for the large amount of feather and white markings.

The Shire has been used to cross on native mares and has been fairly successful where horses having height as well as bone and substance

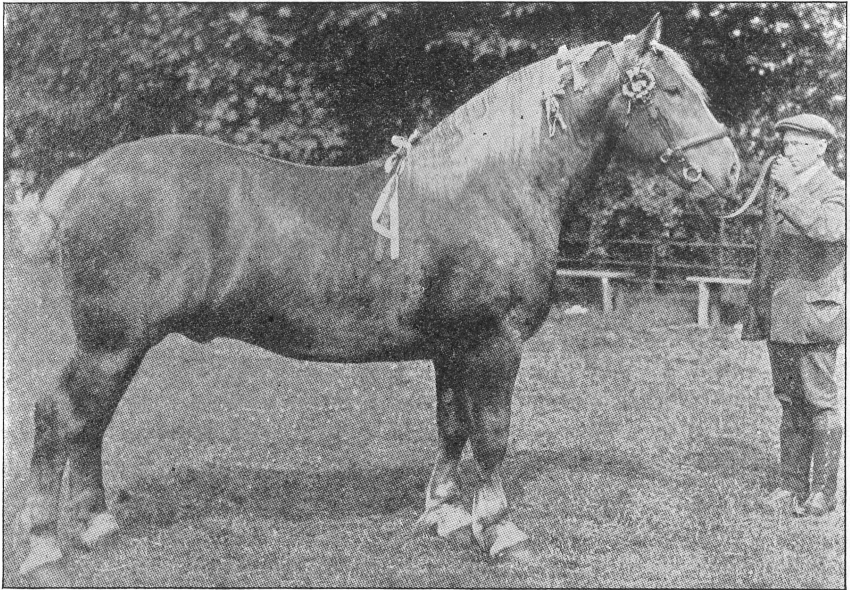


FIG. 78. SUFFOLK STALLION

were wanted. These characters can be derived from Shire blood with greater certainty than from any other breed.

The American Shire Horse Association was organized in 1885 and had registered up to January 1, 1915, over 15,400 animals. The secretary is Charles Bergess, Wenona, Illinois.

#### SUFFOLK

The native home of the Suffolk is Suffolk County, England, and the production of the breed is confined largely to this and adjoining counties. The Suffolk Stud Book Association was organized in 1877.

The first Suffolk horse was imported into the United States in 1880, but they have not been very popular, and no large numbers have been imported.



The Suffolk is smaller than any of the other draft breeds, mature stallions weighing from 1600 to 2000 pounds and standing about 16 to 16½ hands high. In general type, the Suffolk is low set, deep bodied, and as muscular as any of the breeds, probably excelling all others in this respect with the possible exception of the Belgian. The distinguishing characteristics of the Suffolk are his low set, smooth, rotund form, invariably chestnut in color, with little or no white markings, and with clean-boned legs devoid of all feather.

The head is medium size, clean-cut, with small ears, full forehead,

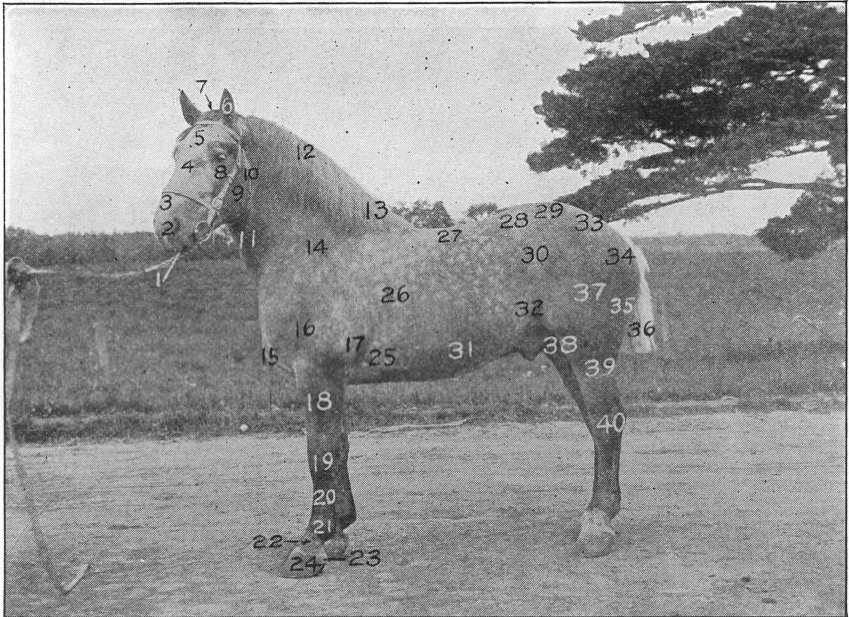


FIG. 79. PARTS OF A HORSE

- |             |                 |             |                 |              |
|-------------|-----------------|-------------|-----------------|--------------|
| 1. Mouth    | 9. Lower jaw    | 17. Elbow   | 25. Foreflank   | 33. Croup    |
| 2. Nostril  | 10. Throatlatch | 18. Forearm | 26. Heart girth | 34. Buttock  |
| 3. Nose     | 11. Windpipe    | 19. Knee    | 27. Back        | 35. Quarters |
| 4. Face     | 12. Crest       | 20. Cannon  | 28. Loin        | 36. Tail     |
| 5. Forehead | 13. Withers     | 21. Fetlock | 29. Hip         | 37. Thigh    |
| 6. Ears     | 14. Shoulder    | 22. Pastern | 30. Coupling    | 38. Stifle   |
| 7. Poll     | 15. Breast      | 23. Coronet | 31. Belly       | 39. Gaskin   |
| 8. Eye      | 16. Arm         | 24. Foot    | 32. Rear flank  | 40. Hock     |

and a tendency to a Roman nose. The neck is short, heavily muscled, and crested. The neck is a bit heavy where it joins the head, but as a rule is smooth and well connected at the shoulders, which are of good length and powerfully supported. The body of the Suffolk is one of its notable features, the chest being deep and wide, the ribs well sprung and long, especially near the flank, giving a deep compact barrel. This undoubtedly contributes to the strength of the statement that the Suffolk is easy to keep and possesses unusual endurance. The croup is broad and well



muscled, with tail well set. The legs are especially well muscled above the knees and the hocks. The cannons are devoid of feather and are clean-cut and cordy. The feet are good size and, as a rule, of good quality, being dense and elastic. The action is free and easy notwithstanding the massive conformation.

Some of the common criticisms of the Suffolk are the seeming lightness of limb as compared with depth and weight of body as well as fullness of neck, which have given the appearance of lack of proper proportioning of parts. This breed also lacks size and weight for the heavy type of draft horses ordinarily demanded in this country.

The American Suffolk Horse Association has been organized in comparatively recent years. It has registered up to January 1, 1915, 870 animals. The secretary of the association is A. Graham Galbraith, DeKalb, Illinois.

### USE OF THE SCORE CARD

In order to become familiar with the various parts of a horse and to know their relative values, a score card is used. The principal purpose of the score card is to draw attention to small points, which would otherwise not be noticed, but which in the aggregate have considerable bearing on the usefulness of an animal. After one has a thorough knowledge of the various parts and the method of procedure, he has no further use for a score card, but is ready for comparative judging.

### GENERAL APPEARANCE

AGE.—The first item on the score card is age, which is most commonly determined by examining the teeth. The appearance of the teeth and the disappearance of the cups, or infundibulum, indicate the age.

The first teeth are milk teeth, the first, or center, pair of which appears at birth or a few days after. The second pair appears when the colt is from six to nine weeks of age, and the corner, or third, pair appears when the colt is from seven to nine months of age. These milk teeth are smaller, being narrow and constricted at the neck, and much whiter than the permanent teeth.

The permanent teeth are much larger and broader than the milk teeth and are yellowish white. The first, or center, pair appears when the horse is about two and a half years of age, and are up and wearing at about three years. The second, or intermediate, pair appears when the horse is about three and a half years old and are up and wearing at about four years. The third, or corner, pair appears when the horse is about four and a half years old and are up and wearing at about five years. This is true of the teeth in both upper and lower jaw, as the pairs of teeth appear in both jaws at the same time. After five years the age is determined by the disappearance of the cups, or infundibulum, of the pairs of teeth. At six

## SCORE CARD

Scale of points

Stand- Points  
ard allowed

## A. General appearance: 35

Age: estimated, ..... years; actual, ..... years .....		
Height: estimated, ..... hands; actual, ..... hands .....		
Weight: estimated, ..... pounds; actual, ..... pounds .....	8	..
Form: low, massive, symmetrical .....	6	..
Quality: bone, flat; tendons, clean; skin and hair, fine .....	8	..
Color: according to breed .....	1	..
Action: step, smooth, quick, long; trot, rapid, straight, regular .....	4	..
Attitude: members, vertical .....	5	..
Temperament: lively, pleasant .....	3	..

## B. Head and neck: 5

Head: lean; length, two-fifths height of withers; width of forehead, more than one-third length of head; depth of head, one-half its length .....	1	..
Muzzle: fine; nostrils, large; lips, thin; teeth, sound .....	1	..
Eyes: full, bright, and intelligent .....	1	..
Ears: short, clean, fine, directed forward, wide apart .....	1	..
Neck: pyramidal, heavily muscled; crest, high; throat, clean, fine; windpipe, large .....	1	..

## C. Fore quarters: 20

Shoulders: snug, moderately sloping into back .....	3	..
Arms: relatively short, 12 to 13 inches, thrown backward, well set ..	1	..
Forearms: vertical, long, heavily muscled, wide .....	2	..
Knees: clean-cut, wide, deep, 4 inches, strongly supported .....	3	..
Cannons: vertical, short, 9 to 10 inches, lean, wide; tendons, well detached .....	2	..
Fetlocks: wide, thick, clean, free from puffiness .....	1	..
Pasterns: angle 45°, fetlock to ground, 7 to 8 inches, strong, clean, and oblique .....	2	..
Feet: round, even size; horn, dark-colored, dense; sole, concave; bars, strong; frog, large, elastic; heel, vertical, one-half length of toe....	6	..

## D. Body: 10

Chest: wide, one-half height of horse; breastbone, low; girth, large...	3	..
Breast: broad and muscular .....	1	..
Ribs: long, round curvature, wide apart .....	2	..
Back: straight, short, muscular; length from shoulders to haunch equals length of head .....	2	..
Loin: wide, short, thick, strongly joined to hips .....	1	..
Underline: long; flank, low .....	1	..

## E. Hind quarters: 30

Hips: level, wide in proportion to other parts, smooth .....	1	..
Croup: wide, long, slightly oblique, muscular, 3 to 6 inches shorter than head .....	4	..
Tail, set and carried high, long, full, fine .....	1	..
Thighs: deep, broad, strong, and muscular; stifle, deviated outward ..	3	..
Buttocks: heavily muscled, well descended .....	2	..
Gaskins: heavily muscled, long, wide, clean .....	3	..
Hocks: clean-cut, large, straight, deep, 5 inches .....	6	..
Cannons: 11 to 12 inches long, otherwise as on fore quarters .....	2	..
Fetlocks: as on fore quarters .....	1	..
Pasterns: as on fore quarters; angle 60° .....	2	..
Feet: compared with those on fore quarters, more oval, more concave; heels, higher, more separated; walls, more vertical .....	5	..

Total..... 100

years of age the cups have practically disappeared from the first, or center, pair of teeth on the lower jaw. At seven years the cups disappear from the second, or intermediate, pair on the lower jaw. At eight years the cups disappear from the third, or corner, pair of teeth on the lower jaw. At nine years the cups disappear from the center teeth on the upper jaw. At ten years the cups disappear from the intermediate pair on the upper jaw. At eleven years the cups disappear from the corner pair on the upper jaw. After eleven years it is almost impossible to estimate the age with any degree of accuracy, but as the horse grows older, the teeth become more triangular in shape. The teeth are also set on the jaw at a greater angle, and do not come squarely together, as the upper teeth tend to extend out over the lower teeth. This is true only in a general way as the feeding of much hard dry food will tend to hasten maturity and cause the teeth to wear much faster, while the feeding of light or soft foods will have the opposite effect, tending to retard maturity and wearing. Thus it is necessary to know something of the treatment of the horse to tell the age accurately. However, the rules given will hold approximately true in the majority of cases.

**HEIGHT.**—The height of the horse is measured in hands and inches, the hand being equal to four inches. For example the height of a horse may be given 16-2, meaning 16 hands and 2 inches, or it may be given 16½ hands. The height may be given in the total number of inches, as 66 inches, but this is a rather uncommon practice. A horse to come into the draft class should measure at least 15-3 hands, while probably the most desirable heights are from 16-2 to 17-2 hands.

The height of a horse is measured from the top of the withers to the ground. If an accurate measurement is desired, it will be necessary to have a measuring stick. When this is not available, a fairly accurate measurement may be made by using the height of the chin or the level of the eye as a gauge. The person should then stand alongside of the horse on a level with his front feet and note where the level of the chin or the eye comes in respect to the withers.

**WEIGHT.**—A horse in order to be classed as a draft animal must weigh at least 1500 pounds. This weight should be due to a massive form, made up of heavy muscles and large bones, and not to excessive fat.

Weight is essential in holding the horse's feet to the ground, giving him a chance to exert his physical force. This is of especial importance in cities, where horses work on smooth and slippery pavements. Also the process of walking is a continual falling forward and catching of the body. Thus, the greater the weight that falls against the collar, the greater pull will the horse be able to exert.

Weight also helps to establish the value of the draft horse on the market.

For many years the horses with the greatest weight, they being equal in other respects, have brought the highest prices.

**FORM.**—The form of the draft horse should be low, massive, and symmetrical, indicative of great strength. The body should be of such depth and width as to give good capacity, and the bones should be well covered with large, heavy muscles. The horse, to be efficient, must be blocky and compact, with weight carried comparatively close to the ground. The compact body should be set squarely on sturdy legs. Too short legs are as objectionable as too long ones, as they affect the efficiency of the horse. Lack of depth and width, ranginess, and lack of muscling throughout are things to be severely criticized in the draft horse.

**QUALITY.**—Quality is that indication in a horse which shows fineness of finish and wearing ability. Quality is shown by refinement of general appearance, for instance in a clean-cut, well-defined head with thin lips and small ears, also by neatness and refinement of neck and withers with soft silky hair and pliable skin. Quality is also shown by clean, hard canons with clean well-defined tendons giving the cannon a flat appearance, by hard, clean, well-defined joints, and by hard, smooth, fine-textured hoofs.

The term quality as applied to the horse means the opposite of coarseness, grossness, or sluggishness. Excessive quality often denotes weakness, such as too fine bone, narrowness and lack of depth, also lack of muscular development. Quality carried to this degree is highly objectionable and should be severely criticized.

**COLOR.**—The color and color markings are determined largely according to breed. The more common colors are bay, black, gray, brown, chestnut, sorrel, and roan with some variations. The solid colors are generally preferred, since horses of solid color are easier to match than those with freakish markings about the head and the legs.

**ACTION.**—The walk is the common gait of the draft horse, and the one at which he does most of his work. The horse should walk with long smooth stride. He should lift his feet from the ground with snappy action, and flex the joints so that the shoes show plainly. He should then pass the feet forward in a straight line and place them on the ground so that the heels land slightly before the toes and with a good firm grip. This does away with the short stubby gait that is noticeable in many horses when they land the toes on the ground first and slide them along for a very short distance, pushing up dirt ahead of them.

The action at the trot should be practically the same as at the walk; that is, it should be rapid, straight, and regular. Any defects of the gait at the walk will be more easily detected at the trot, and it is for this reason largely that the draft horse is judged at the trot. In judging the action of the draft horse he should be led directly away from and back toward

the judge, and past him. In this way the horse's action in going, coming, and passing may be noted.

Some of the common defects in the gait of the draft horse are paddling, "winging," interfering, and rolling. One of the common defects is the carrying of the rear hocks too far apart. Rolling is caused by too great width of chest.

**ATTITUDE.**—By attitude is meant the position of the legs in respect to the ground and the body. The legs should be vertical and well set on the body. When viewed from the front, the legs should be straight so that a line dropped from the point of the shoulder will pass over the center of the knee and the center of the ankle, and come to the center of the toe. Some of the common deviations from this are the turning in or out of the toes and the bending in or out of the knees, so that the line passes either side of the center. When viewed from the side, the front legs should be straight so that a line dropped from the center of the shoulder blade will touch the center of the forearm and the center of the side of the hoof, and be parallel with the bones of the leg. Common deviations from this are the placing of the legs too far under the horse, "buck knees," or knee-sprung, when they project too far forward, and "calf knees," when the knees tend to be in too far.

When viewed from the rear, the hind legs should also be vertical so that a line dropped from the point of the buttock will pass over the center of the hock, down the center of the cannon and the ankle, and cut over the center of the heel. Common deviations are the turning in or out of the toes or the hocks. When viewed from the side, the hind legs should be perpendicular, and a line dropped from the thurl should pass over the center of the gaskin, down parallel to the cannon bone, and touch the center of the side of the foot. Also a line dropped from the buttocks should touch the hocks and pass down back of the cannon and the ankle, touching all the way down, and meet the ground a few inches back of the heel. Common deviations are too curved hocks with feet too far under the horse, known as sickle hocks; also the feet and the legs sometimes extend too far back and are not under the horse; or both feet and legs may be too straight and too far under the horse.

**TEMPERAMENT.**—The draft horse should have a lively, energetic, and intelligent disposition. He should be a ready and willing worker without being irritable and nervous. He should be neither sluggish nor excessively nervous. A sluggish disposition is indicated by indifference and lack of poise and should be guarded against. The excessively nervous horse should also be guarded against, as he will not make so good a slow worker nor last so long as will the more docile animal.



## HEAD AND NECK

**HEAD.**—The head should be fairly large and in proportion to the rest of the body. It should be lean, and the features should be clean-cut. The front of the head should be straight and should not have a curved, or Roman, nose. The forehead should be broad, a little more than one-third the length of the head. The depth of the head should be about one-half the length of the head. The length of the head should be about two-fifths the height of the withers.

**MUZZLE.**—The muzzle should be fine and neat with nostrils large but not dilated. The hair and the skin should be of good quality, and the lining of the nostril should be pink in color and should look healthy, being free from purple spots, ulcers, or any kind of discharge. The lips should be thin and should come together, as a drooping lower lip is unsightly and shows a lack of nervous development and control.

The teeth should be sound and should come squarely together.

**EYES.**—The eyes should be full, bright, and intelligent, and set moderately far apart, on the edge of the head. The eyelids should be thin and well curved, free from all wrinkles and angularities. The eye should be of clear color and free from all cloudiness or white spots, for these are indications of weakness. The pupil should be elliptical in form and should contract on bringing the horse from the dark into the light. The eyes should not be staring or bulging, as this is generally an indication of weakness.

**EARS.**—The ears should be of medium size or should be in proportion to the rest of the body and the head. They should be set on top of the head, wide apart, and carried straight up and forward, not hanging off at the sides. They should be neatly shaped, pointed, and of fine quality, as shown by soft pliable skin and fine soft hair. They should be free from excessive amounts of coarse hair and should not have too much hair on the inside of the ear.

**NECK.**—The neck of the draft horse should be of medium length, heavily muscled, and should not be thick. It should be slightly arched or crested on top and should have a thick mane of good quality. The windpipe should be large, for this indicates good breathing power. The neck should be smoothly and neatly attached at the shoulders in such a way that the horse can get its head up. The length of insertion should be about equal to the length of the underline. The neck should be free from all coarseness or thickness at the throatlatch and should fit neatly into the head. Coarseness or thickness at the throatlatch may cause pressure on the windpipe when the horse is checked up, and thus cause thick or heavy breathing.

## FORE QUARTERS

**SHOULDERS.**—The shoulders should be moderately sloping, extending into the back, and smoothly covered with muscle to form a cushion for

the collar. The distance from the point of the shoulder to the point of the withers should be slightly shorter than the length of the head. The shoulders should be free from all coarseness, roughness, sores, or tumors. The withers should be well covered with muscle and moderately high. The majority of poorly formed shoulders in draft horses are too vertical, although the other extreme, or too sloping shoulders, may be found. These should be guarded against, since they cause collar trouble when the horse is doing heavy work.

**ARMS.**—The arm extends from the point of the shoulder to the elbow, and in draft horses it should be relatively short, heavily muscled, and well set. The elbow should be clean and prominent and carried neither too close to the body nor too far from it, for if carried in either of these ways the horse will tend to have a rolling or a sprawling action.

**FOREARMS.**—The forearm extends from the elbow to the knee and should be of fair length. It is made up of the humerus, which is heavily muscled around the upper half but is clean, cordy, and flat on the lower half just above the knee. Here and in the gaskin are probably the best places to determine the approximate strength of a horse, as these two parts are entirely bone and muscle and will not take on fat as will the back and the loin or other parts of the horse.

**KNEES.**—The knees should be clean-cut, well formed, with good width and depth. They should be vertical when viewed from the side, bending neither backward, known as "calf knees," nor forward, known as "buck knees," or knee-sprung. The knees should be well supported and not cut in under the back or the front as is the case in many otherwise good horses. The knees cannot well be too large if they are clear of fleshiness and well formed and supported. Any blemishes or scars around the knees should be guarded against, for they are good signs of weak knees.

**CANNONS.**—The cannons extend from the knees to the fetlocks and are composed chiefly of bone and tendons. They should be short, clean, wide, and flat when viewed from the side. The flat appearance should be due to the well-detached tendon in the rear. If long hair, or feather as it is commonly called, is found springing from the back of the tendon, it should be fine and silky and not coarse and curly, as the coarseness is an indication of coarse bone and flesh on the cannon. The cannons should be examined for bony bunches, or splints, just under the knees which may cause the horse to be lame, also for any little bunch along the side of the cannon which may show that the horse interferes high on the cannon.

**FETLOCKS.**—The fetlocks should be wide, thick, clean, and free from all puffiness. They should be straight, strong, and well supported. Any sores or calluses caused by interfering, knuckling, or breaking forward, are highly objectionable. At the back of the fetlocks in the hair is a horny pro-

jection known as the ergot. This is inclined to be large and prominent in many draft horses.

**PASTERNS.**—The pastern is between the fetlock and the foot. It should be of medium length, clean, strong, and should support the fetlock joint well. The line showing the slope of the pastern should meet the ground at an angle of about forty-five degrees. The distance from the fetlock to the ground should be about seven or eight inches. Pasterns that are too upright and short give the horse a short, stubby gait and also cause various foot troubles and unsoundness. Too sloping pasterns are indicative of weakness and will generally break down with age or when the horse is put under the strain of hard work for any considerable length of time. Thus the pasterns should have a moderate slope, which lessens the shock when the foot meets the ground and tends to do away with many unsoundnesses that are brought on by too upright or too sloping pasterns.

**FEET.**—The foot should be so placed on the pastern that it toes straight ahead and does not turn in or out, for this tends to make the horse either "wing," or paddle. The feet when viewed from the front should be about as far apart as the width of one of the feet. They should also be practically round with a little sharper turn in on the inside of the toe and more nearly straight to the inside rear quarter. When viewed from the side, the median line of the toe should be parallel to the heel. The median line should meet the ground at an angle of about fifty degrees. The length of the median line on the toe should be about twice the height of the heel. The surface of the foot should be smooth and free from all vertical cracks and ridges or wrinkles extending around the foot.

The foot should be waxy in appearance and should show density. The horn should be dark colored and neither brittle nor shelly. The bottom of the foot should be concave and not convex nor too flat, which is often the case in heavy horses. The heel should be broad throughout its length, widening somewhat as it reaches the sole. The frog, which is the soft spongy triangular piece extending from the heel to the center of the foot, should be large, well defined, and soft or elastic to the touch. Frogs that are hard, dry, decaying, or shrunken and cracked open at the center are in a serious condition and should be guarded against. The bars are horny braces leading from the point of the frog to the sides of the heel on both sides of the frog. They should appear well defined, healthy, and strong, since they keep the heel from contracting and thus from injuring the frog.

## BODY

**CHEST.**—The chest should be wide and deep thus giving plenty of room for the development of heart and lungs. When viewed from the front there should be good width between the legs, and the breastbone should be

low and level. The heart girth is the circumference of the chest just back of the shoulders. It should be largely due to the spring of the ribs and to depth, which should be about one-half the height of the horse. The large girth should not be due to excessive fat over the ribs. A large, wide, deep chest denotes vigor, power, strong constitution, and easy keeping, while a shallow, narrow chest denotes the opposite, or poor constitution, lack of endurance, and deficient breathing organs.

**BREAST.**—The breast should be broad and heavily muscled. The breast-bone should be low and level on the floor of the chest.

**RIBS.**—The ribs are bones that form the frame for the barrel, or body, of the horse. They should spring from the backbone in bold curve and should be long, thus forming a wide, deep barrel. The ribs should be fairly wide apart, and the last, or rear, ribs should be of good length and should extend back close to the hip, giving a deep, full flank. Well-sprung ribs and a rounded barrel are indicative of good digestive organs and ability to do hard work. Lack of spring of ribs and short rear ribs with tucked up flank are indicative of weakness, poor digestion, lack of appetite, and a hard keeper.

**BACK.**—The back extends from the rear of the withers through the last rib and should be short, straight, broad, and muscular. The length of the head should be about equal to the length of the back. One should be careful not to mistake excessive fat along the back for heavy muscling. When one takes into consideration that practically all the power is developed in the hind legs and must be transmitted through the back to the shoulder and the collar, one readily sees how important it is that the back should be straight, strong, and short.

**LOIN.**—The loin is that region of the back that extends from the last ribs to the hips. In other words it couples the body to the hips. It should be short, broad, strong, and heavily muscled. The loin of the female should be a little longer than that of the male. In judging a broad, well-muscled loin, care should be taken that fat is not mistaken for muscle.

**UNDERLINE.**—The underline should be long, low, and straight. Both the fore flank and the rear flank should extend well down so as to give a straight line. Lightness or tucked up flanks show a tendency to lack of constitutional vigor.

## HIND QUARTERS

**HIPS.**—The hips should be wide, level, and well covered with muscle, as this gives the required strength and also protects the hips from injury. Roughness across the hips with prominent hip bones is undesirable, for it shows a lack of quality, and rough, prominent hip bones are more susceptible to injury.

**CROUP.**—The croup extends from the rear of the loin to the insertion of the tail. The croup should be fairly level, of good length, from three to six inches shorter than the head, wide, and well muscled. The croup should not be perfectly level but should slope a little. Some of the most common faults are the very sloping croup and the lack of muscular development.

**TAIL.**—The tail should be set fairly high on the croup and so carried

that it comes slightly up and out and hangs in a graceful curve. It should be long, full, and made up of fine hair.

**THIGHS.**—The thighs from the hips to the stifles should be strongly muscled, wide, and long. It is most highly important that the thighs should be well muscled, as it is through these muscles that the horse gets most of his power to pull. The stifle joint should be strong, well muscled, with a marked depression both above and below the patella, clean-cut in front, and free from all swelling.

The stifle should be



FIG. 80. COLLAR GALL

close to the abdomen with very slight deviation outward to allow straight, smooth, long, free action in the rear legs.

**BUTTOCKS.**—Viewed from the rear the buttocks are the heavy muscles on the inner sides of the thighs. They should be full, thick, and carried well down to the gaskin. It is a serious defect in a horse to be light muscled through the buttocks.

**GASKINS.**—The gaskin is the region between the stifle and the hock. It should be heavily muscled near the stifle but lightly muscled near the hock in a way similar to the forearm in the front leg. This is one of the regions in which to determine the muscling of a fat horse, for this region cannot be covered with fat. The gaskins correspond to the forearms, and what is true of one is equally true of the other.



**HOCKS.**—The hock is the most important joint of the animal's body, for it is through this that he pushes or pulls his entire load. The shape, the strength, and the soundness of the hock can best be seen from a position in line with the horse's head and a little to one side. From this position the face, or inside, of the hock can be seen; it should be broad, flat, clean, and well supported below by the cannon bone. The cannon should appear strong and not cut in under the hock. The hock should then be examined from side and back. It should be long from top to bottom, angular, strong, sharply defined, and well supported on the back by the tendon. The hock should be clean and free from all puffiness. The hocks should not be too close together, neither should they be too far apart; but they should be so placed and straight that a plumb line dropped from the point of the buttocks will pass over the center of the hock and down back of the cannon, touching the cannon all the way down. Too curved hocks, or "sickle" hocks, are signs of weakness. Hocks badly cut in on the back of the cannons are signs of weakness and generally produce curbs due to strain on the parts.

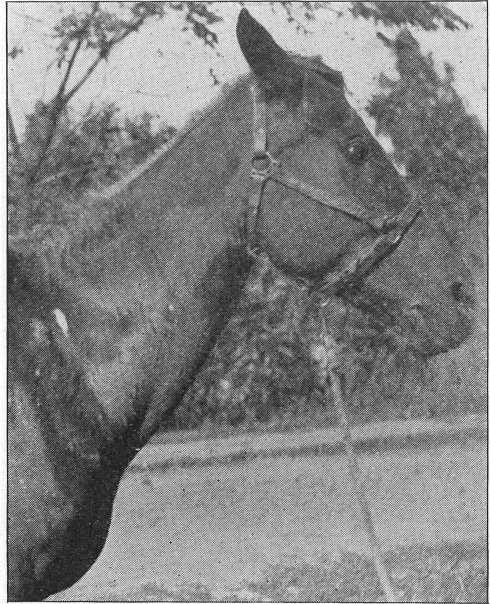


FIG. 81. COLLAR SORE

**CANNONS.**—What has been said of the cannon of the fore leg is equally true of the cannon of the hind leg except that the cannon of the hind leg is slightly longer, being from eleven to twelve inches long. The cannon should be clean, with flat appearance due to detached tendon, and should not be light or cut in just below the hock.

**FETLOCKS.**—The statements made about the front fetlocks are equally true of the rear fetlocks. They should be clean and free from all puffiness. Puffiness about the rear fetlocks is a most common defect in horses.

**PASTERNS.**—All that has been said of the pasterns of the front legs holds true for those of the hind legs except that the line showing the slope should meet the ground at an angle of about sixty degrees.

**FEET.**—The quality of the hind feet should be the same as that of the

front feet. The hind feet are not quite so round as the front feet, and the walls are a little more vertical, the heels a little higher and separated a little more than in the front feet. The hind feet should be more concave than the front feet, and the frog and bars should be prominent and in good condition.

### UNSOUNDNESS

After having learned how to judge the various exterior parts as to correctness of form, one should learn to detect the more common and serious kinds of unsoundness. Unsoundness should be studied in reference to the parts involved. A brief description and location of some of the more common forms of unsoundness follows.

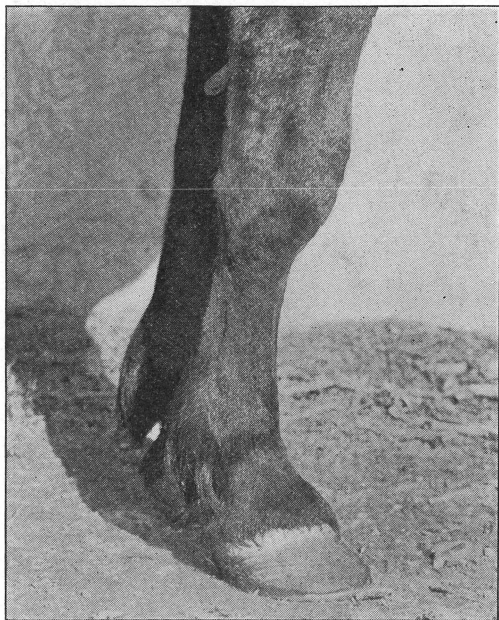


FIG. 82. CAPPED KNEE

**HEAD.**—Poll-evil is an enlargement on the poll, or the top of the head, just behind the ears. The enlargement is caused by bruising and contains or discharges pus. This is a serious unsoundness because it is often difficult to cure. The head should be examined for scars, since even in recovered cases the neck may be left permanently stiff.

**EARS.**—Impaired vision, viciousness, or nervousness may be shown by excessive

motion of the ears. Deafness may be indicated by lack of mobility. The base of the ears should be examined for troublesome discharging fistula.

**EYES.**—The eyes should be tested for blindness. The pupil should contract on bringing the horse from darkness into light. Moon blindness, or periodic ophthalmia, is indicated by cloudiness or opacity. If the upper eyelids are angular or wrinkled, the horse likely has some eye trouble. Specks may be due to injury and are unimportant if they do not impair the sight.

**MUZZLE.**—Any discharge from the nose should be noted, as this may indicate chronic catarrh or glanders. The lining of the nostril should be

a healthy pink, free from all spots, ulcers, or foul smelling discharge. The nostrils should be examined to see that they are not plugged with a sponge or something to hide roaring.

**TEETH.**—The teeth should be carefully examined to see that none are missing, diseased, or that they do not overlap each other, as in the case of a "parrot mouth," instead of coming together. They should also be examined for "bishoping," which is artificial marking of the incisors to change the indications of age.

**TONGUE.**—The tongue should be examined to see that it is intact and healthy, and that part of it is not missing or badly mutilated. The jaw should be examined where the bit rests to see

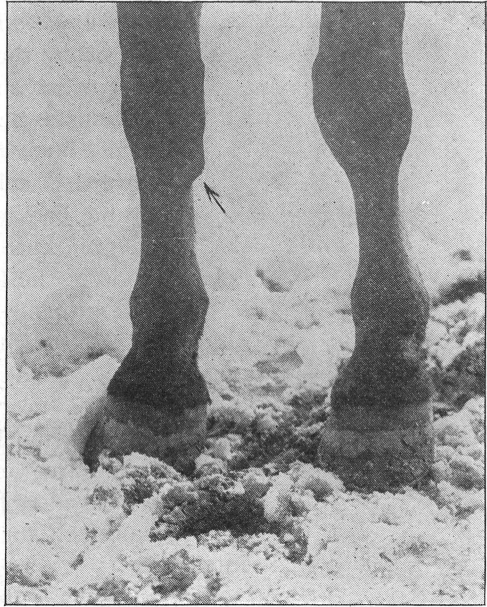


FIG. 83. HIGH SPLINT

that it has not been seriously injured.

**NECK.**—The neck should be examined to see that the mane is not artificially braided in, that there are no skin sores nor mange along the top of the neck, and that the crest is not broken on heavily crested horses. The windpipe should be examined to see that it is not artificial.

**WITHERS.**—Fistula of the withers is a sore discharging pus and located on top of the withers; it may be acute, chronic, or healed. Collar sores also are found on the withers.

**SHOULDERS.**—Horses should be examined for sweeney, or wasting away of muscle over the shoulder blade.

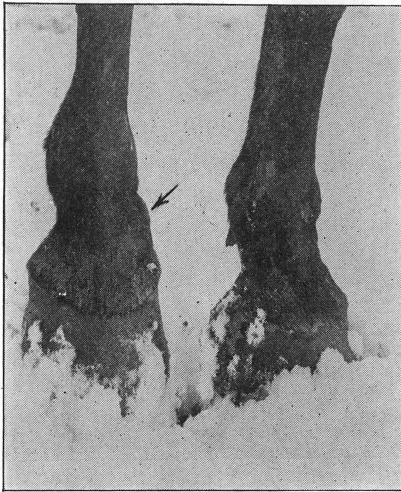


FIG. 84. SIDE BONE

Collar boils or abscesses injure the shoulder.

**ELBOWS.**—A shoe boil may result from bruising the elbow. Generally it is caused by lying on the shoe.



FIG 85. THOROUGHPIN

**GASKINS.**—The gaskin should be examined just below the elbow to see that there are no scars which show “unnerving.”

**KNEES.**—Scars from stumbling and falling, puffs, “buck knee,” when the knees are sprung forward, “calf knee,” when the knees are sprung backward, capped knee, hard growth over the knee, and high splints on the lower inside of the knee, are all serious faults.

**CANNONS.**—The canons should be examined for splints, which are abnormal, bony growths on the inside of the cannon. High splints, or those near the top of the cannon, are generally much worse than the lower splints, which are very common on heavy horses. The inside of the canons should also be examined for any bunches or scars that

may indicate high interfering.

**FETLOCKS.**—Puffs or wind galls, interfering sores, “knuckling,” or “cocked ankle,” scratches, and grease heel, are forms of unsoundness of the fetlocks. The skin just above and below the fetlocks should be examined for scars of “unnerving.”

**PASTERNS.**—Ringbone is a bony growth extending around and on the pastern bone. It gives a full or bulging effect to the pastern.

**CORONARY BAND.**—Side bones are along the sides of the foot, in the coronary band, or on top of the foot. They are due to transformation of lateral cartilages, found on the wings of the coffin bone, into bony matter.

**Quittor** is a fistulous abscess often found on the coronary band.

**Quarter crack** is a crack through the coronary band and part way down the top of the hoof on the sides of the hoof.

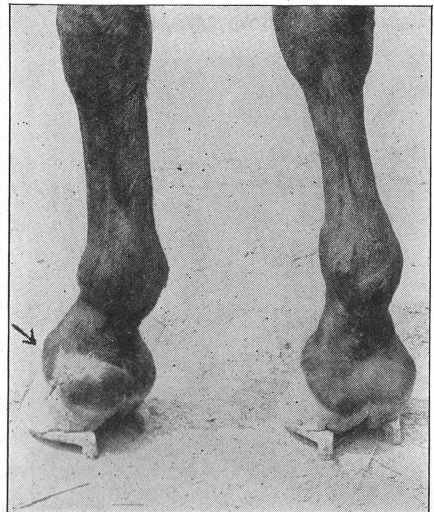


FIG. 86. QUITTOR



Sand crack is a crack through the coronary band and part way down the front of the hoof.

**FEET.**—Toe crack starts at the bottom of the toe and works up through the hoof towards the top.

Flatfoot is the condition that results when the sole has little or no concavity.

Founder is commonly indicated by rings and ridges on the hoof walls, abnormal projection of the toe, convexity of the sole, and lameness or abnormal gait.

Thrush is a diseased condition of the frog characterized by a foul smelling discharge from the cleft of the frog.

Corn occurs in the sole at the angle of the bar and the heel.

Contraction of the heel is shrinking of the tissue so that the lateral diameter of the heel is diminished.

Navicular disease causes a hardening and contraction of the foot and chronic lameness. A horse affected with this trouble favors the diseased foot.

**HIPS.**—The hips should be examined for fracture of the front of the bone (ilium) indicated by distortion. Knocked down hip is one that is lower than the other. The haunches at the sides of the tail should be examined for similar distortions.

**TAIL.**—The skin on the under side of the tail should be examined for melanotic or pigmented tumors often found in aging white or gray horses. This disease is incurable. The end of the tail should be examined for sores or unhealed condition due to docking. Also care should be taken to see that the tail is not artificially joined on.

**STIFLE.**—The stifle should be free from all dense or dropsical swellings. The patella should remain firmly in position when the horse is in motion.

**HOCKS.**—Thoroughpin is found at the back and the top of the hock in that part known as the "hollows" between the shank bone and the so-called hamstring. It is a round, smooth bunch and shows most plainly when viewed from the rear.

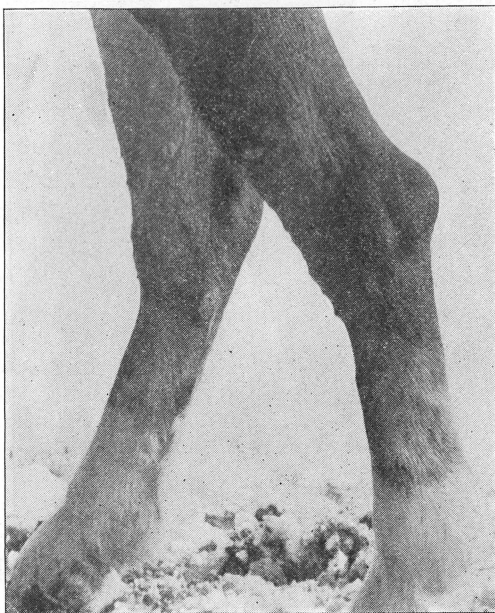


FIG. 87. CAPPED HOCK



Capped hock is simply a bunch, or cap, over the back joint of the hock due generally to a bruise.

Bone spavin is a bony growth on the surface or among the small bones on the inner lower part of the hock, or it may involve the true joint a little higher up.

Jarde is a bony growth appearing on the outer part of the joint.

Blood spavin is situated in front on the inside of the hock, and is simply a varicose, or dilated, condition of the saphenous vein. It appears in

the same place as a bog spavin and has often been confused with the latter.

Bog spavin is a round, smooth, fluctuating tumor situated in front and a little toward the inside of the hock. On pressure it disappears at this point only to appear outside and just behind the hock.

Curb is an enlargement appearing on the back of the leg just under the hock joint, and involves tendons, ligaments, and sometimes the bone.

GENERAL UNSOUNDNESS.—Chorea, or St. Vitus's dance, is involuntary contraction of voluntary muscles.

Stringhalt is manifested by a sudden, high jerking up of

one or both of the back legs when the horse walks.

Heaves are indicated by a double bellowslike motion of the abdominal muscles when the horse breathes. A cough is also present.

Roaring is characterized by noisy breathing when the horse is exercised.

Vices, such as wind sucking, cribbing, or weaving, can best be detected in the stall, and for this reason it is generally well to examine a horse in the stall and note the conditions of the stall.

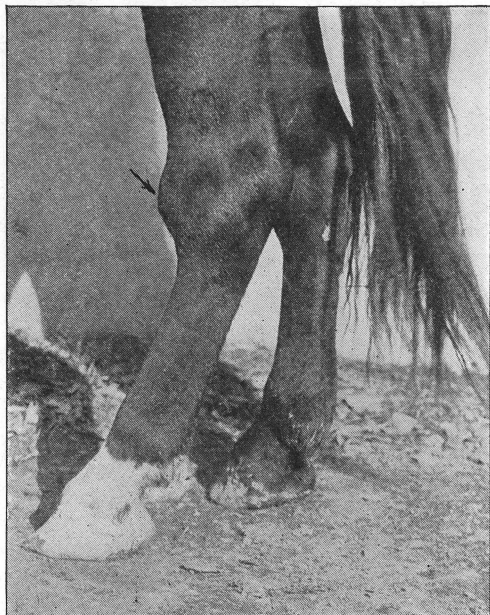


FIG. 88. BOG SPAVIN

### ADVANCED READING

The reading course lessons are designed merely to introduce a subject; they are elementary and brief, and are intended to arouse a desire for more complete knowledge along particular lines. The study of reading

course lessons should be introductory to the study of standard agricultural books and of bulletins of the United States Department of Agriculture and the state experiment stations. References for advanced reading may be obtained on request from the Supervisor of the Reading Course for the Farm. References are given to particular books or bulletins because they are thought to meet particular needs, not because they are considered superior to other publications. The following is a list of references on the subject of this lesson:

Management and breeding of horses. M. W. Harper. Orange Judd Company, New York City.

Live stock judging and selection. R. S. Curtis. Lea and Febiger, Philadelphia, Pennsylvania.

Diseases of the horse. Bureau of Animal Industry, United States Department of Agriculture, Washington, D. C.

This book may be obtained free on application to a United States Senator or to a Representative in Congress.

Judging draft horses. A. S. Alexander. Wisconsin Agricultural Experiment Station. Circular 53. Madison, Wisconsin.

Judging of draft horses. W. H. Palmer. Ohio State University. Extension bulletin, Vol. X, No. 8. Columbus, Ohio.

Breeds of draft horses. G. A. Bell. United States Department of Agriculture. Farmers' bulletin 619. Washington, D. C.

## CORNELL STUDY CLUBS

Cornell study clubs are local organizations, which aim to promote the study of Cornell reading course lessons, and also to advance the welfare of the community. Study clubs furnish an occasion and an incentive for reading and discussing reading course lessons for the farm and for the farm home. Often a helpful lesson will reach a farm home at a time when it cannot be given attention, and it is set aside and possibly forgotten. If, however, a special time is reserved for the study of reading course lessons at a club, it is likely that much helpful reading will be accomplished. The club fosters a spirit of common interest in the community and offers an opportunity for social exchange of thought and experience. Better understanding and good feeling among neighbors usually results from association for a common purpose. Cornell study clubs are educational and social centers, and they may also become agencies for serving the broader interests of the community, for example, by arranging for local improve-

ments, bringing outside speakers to the community, and by encouraging cooperation in buying and selling.

The membership of Cornell study clubs may be composed of farmers and their families — the men using the reading course lessons for the farm, and the women reading course lessons for the farm home, and both groups joining for a social hour — or separate clubs of men and women may be formed. The more general organization seems most desirable as it reaches men, women, and young people of the community. The organization can be easily effected even if at first only half a dozen persons desire to form a group. The president and the secretary of the club should be elected, a list of charter members made, and the dates and places for meetings decided on. Some of the larger clubs may need a treasurer, a program committee, and a constitution and by-laws. The meetings should be held frequently enough to maintain an active interest in them; regularly every two weeks during the fall and winter is usually considered sufficiently often. If it is not advisable to meet every fortnight in spring and summer, monthly meetings are suggested. Study clubs hold their meetings in churches, grange halls, and at the homes of the members.

The programs should be carefully planned at least several weeks in advance. Some of the clubs prepare printed programs for all of the meetings for the year. Usually part of each meeting is reserved for study and part for social enjoyment. The educational part may be made interesting by discussing timely lessons or lessons on subjects of particular local importance. It is best to select leaders to be held responsible for the success of this part of the program. Reading course lessons should be obtained by the secretary and distributed to the members at least one week in advance of a meeting, so that they may be prepared to take part in the discussion that should follow the opening talk or reading of the lesson. The more members that will take part in the discussion of the lesson the better, provided the leader holds the discussion to the points at issue. A question box is a useful addition to this part of the program. Many of the questions can be answered from local experience. If advice is desired from the College of Agriculture, these questions may be forwarded to the Supervisor of the Reading Course for the Farm. The social part of the program may be enlivened with readings, recitations, music, games for young and old, and especially by club singing. When clubs hold their meetings in homes, refreshments may well be added to this part of the program, if they are not allowed to become so elaborate as to become a burden. The meetings should proceed under a definite order of business to provide for a roll call, the conduct of club business, reports of committees or of delegates who have visited farmers' institutes, demonstration schools, Farmers' Week at Cornell, or other meetings. Some clubs are

undertaking the maintenance of a business exchange. At the meetings lists of articles for sale or for exchange are read, together with lists of articles that members desire to buy.

The success of a Cornell study club depends principally on the development of local leadership. Assistance is given in organizing and conducting clubs, and speakers are sent to clubs occasionally in connection with the regular extension work of the College. Further information concerning organization, study material, and the preparation of programs may be obtained by writing to the Supervisor of the Reading Course for the Farm, College of Agriculture, Ithaca, New York.

### AVAILABLE READING COURSE LESSONS FOR THE FARM, ARRANGED BY SERIES

Residents of New York State may register for one or more of the series given below by addressing The Cornell Reading Course for the Farm, College of Agriculture, Ithaca, New York.

Series	Lessons
The soil.....	74 Introduction to the principles of soil fertility
	42 Tilth and tillage of the soil
	50 Nature, effects, and maintenance of humus in the soil
	70 Soil moisture and crop production
	78 Land drainage and soil efficiency
Farm crops.....	24 The rotation of farm crops
	66 Meadows in New York
	90 Alfalfa for New York
	108 Culture of sweet clover and vetch
	110 Buckwheat
	112 Potato growing in New York
Livestock.....	114 Silos and the production and feeding of silage (In press)
	115 Keeping sheep for profit (In press)
Dairying.....	86 The production of clean milk
	102 Cooling milk
	82 Cream separation
	32 Composition of milk and some of its products
	60 Farm butter-making
	98 Practical examples in dairy arithmetic

Farm forestry.....	12	The improvement of the woodlot
	62	Methods of determining the value of timber in the farm woodlot
	28	Recent New York State Laws giving relief from taxation on lands used for forestry purposes
	40	County, town, and village forests
Fruit growing.....	104	Pruning
	84	Insects injurious to the fruit of the apple
	36	Culture of red and black raspberries and of purple-cane varieties
	48	Culture of the cherry
	52	Culture of the blackberry
	72	Culture of the grape
Plant breeding.....	38	Principles and methods of plant-breeding
	44	Methods of breeding oats
	68	Improving the potato crop by selection
The horse.....	46	Feeding and care of the horse
	56	Practical horse breeding
	113	Judging draft horses
Poultry.....	80	Incubation
	88	Feeding young chickens
	*353	The interior quality of market eggs
Vegetable gardening.....	58	Planting the home vegetable garden
	†33	Vegetable gardening
	†83	Raising vegetables for canning
	92	Summer care of the home vegetable garden
Flower growing.....	106	Spring in the flower garden
	†35	The flower garden
Country life.....	64	The rural school and the community
	76	Birds in their relation to agriculture in New York State
	94	The farm fishpond
	96	Surroundings of the farm home
	†59	Sewage disposal for country homes

\* Cornell Experiment Station Bulletin. Six sets of questions are sent with this bulletin. The answers to these questions are graded and returned to the reader.

† Lesson for the Farm Home.